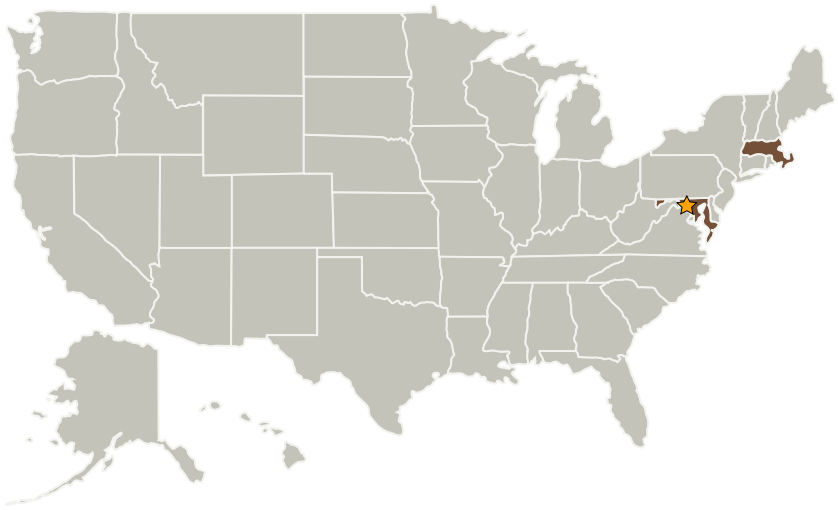
Shielded ADR Magnets For Space Applications, Phase I

Completed Technology Project (2006 - 2006)

Project Introduction

An important consideration of the use of superconducting magnets in ADR applications is shielding of the other instruments in the vicinity of the superconducting magnets. For example in a telescope application the magnetic field at about 1m away from the magnet may need to be in milli-gauss range. Shielding without proper technology and optimization can add unnecessary weight to the magnet system that can amount to a few times the weight of the superconducting magnet itself. This proposal discusses various approaches in shielding of Nb3Sn ADR magnets and suggests a program to develop the capability required to achieve effective shielding schemes that provide required shielding with minimum weight, and maximum reliability.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Superconducting Systems, Inc.	Supporting Organization	Industry	Billerica, Massachusetts

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Maryland	Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.5 Radiation
    - TX06.5.3 Protection Systems